King County
Department of
Natural Resources and Parks
Wastewater Treatment Division

Fairwood Interceptor Sewer and Madsen Creek Update

Clean Water — A Sound Investment *August 2004*

Successful Solutions for Fairwood

Wastewater flows from the Fairwood community through a pipeline in Madsen Creek ravine. The pipeline is unstable and located in a sensitive area prone to landslides and erosion. King County is building an alternative all-gravity pipeline called the Fairwood Interceptor, in a new alignment outside the Madsen Creek ravine. Through the project, the county will redirect sewage flow to the new Fairwood Interceptor and upsize existing Cedar River Water and Sewer District pipelines. In accordance with community preference, the new deep interceptor avoids the need to build a sewage pump station in Fairwood.

To minimize construction impacts, the interceptor project has been broken into phases:

Phase 1
Fairwood Siphon Sewer Line completed:

During Phase 1 (July 2002 - November 2003), a tunnel was drilled and gradually enlarged to allow King County's contractor, Mears/HDD, to pull a sewer pipeline through the hole. This innovative technology, called horizontal directional drilling (HDD), is a trenchless technique adapted from the oil and natural gas industry. The completed sewerline, the first successful application of HDD to wastewater pipeline construction in the state, stretches from a point near 140th Avenue Southeast, under Madsen Creek ravine, and to Fairwood Elementary School (see map).

Phase 2 Fairwood Interceptor Sewer

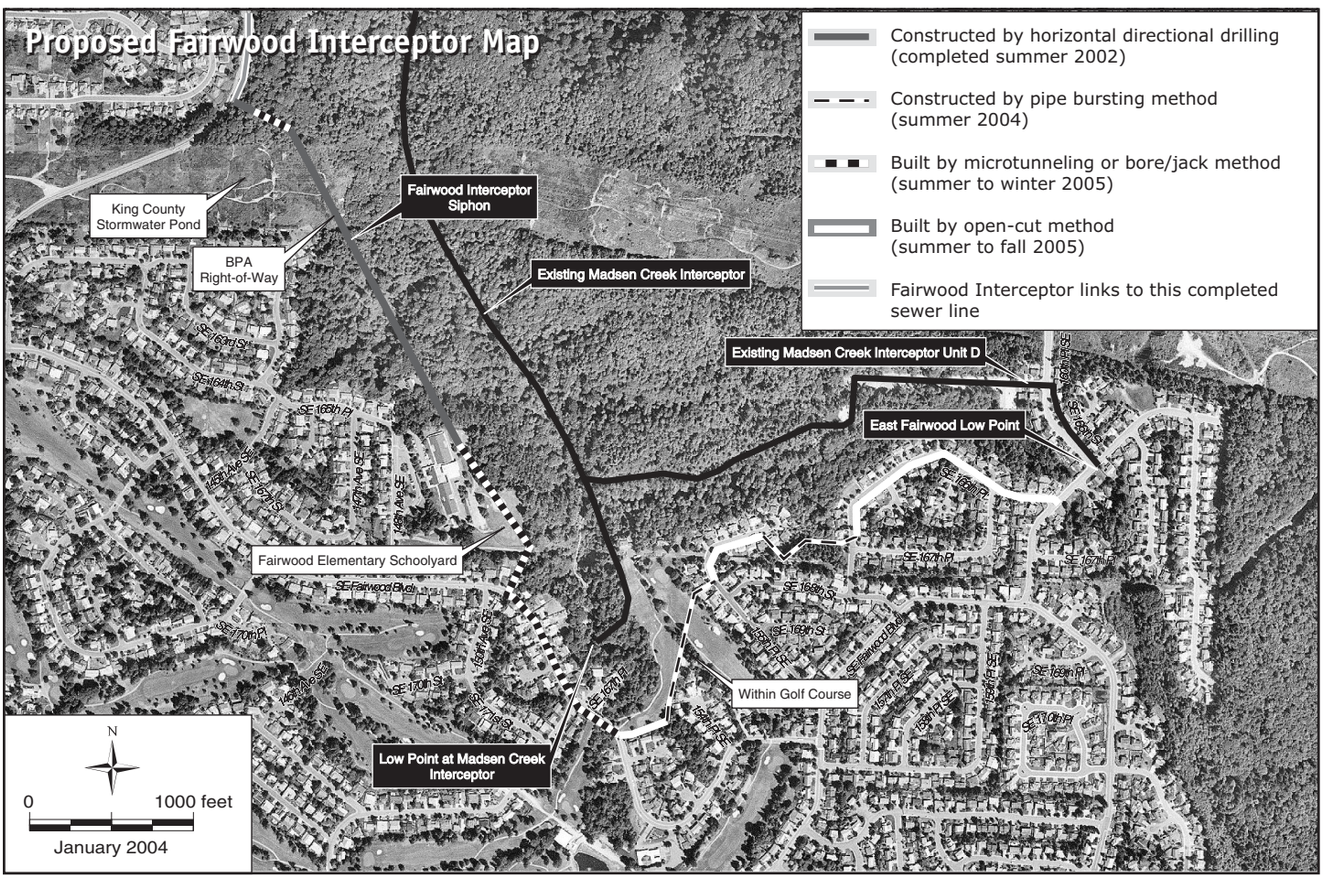
Construction will begin in August 2004 and will include two stages:

Phase 2A will involve upsizing existing sections of the Cedar River Water and Sewer District pipeline (see map) using the pipe bursting technique (with the exception of a small section of open-cut excavation near the 15th green at the Fairwood Golf and Country Club course). Phase 2A construction will begin this August and extend through late 2004.

Phase 2B "connects the dots" of previous stages, and includes the following activities:

- Upsizing existing sections of Cedar River Water and Sewer District pipeline along Southeast 166th Place between 162nd Avenue and 157th Avenue at the playground. This work will increase sewage capacity to accommodate flows. The construction technique will be open-cut excavation.
- Upsizing existing sections of Cedar River Water Sewer District pipeline along Southeast 167th Place from the cul-de-sac to 155th Place (open-cut excavation).
- Installing the new interceptor pipeline along Fairwood Boulevard from the Fairwood Golf and County Club course 15th fairway to the Fairwood Elementary School playfield (combination of open-cut excavation and trenchless techniques).
- Completing the line by installing the final new interceptor segment from the end of the Fairwood sewer siphon near the BPA right-of-way to the existing interceptor installed along 140th Avenue Southeast (trenchless technique).

Phase 2B construction is scheduled to begin in Spring 2005!



King County
Department of Natural Resources and Parks
Wastewater Treatment Division
201 South Jackson St. KSC-NR-0505
Seattle, WA 98104-3855

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by calling 206-684-1280 or 711 (TTY)

An example of a pipe bursting receiving pit

Madsen Creek Progress to Date

Madsen Creek Stabilization: Stormwater draining through Madsen Creek's northwest tributary and mainstem at high velocity has created serious erosion and stability problems in the ravine. Without corrective action, backyards and homes in the Elliot Farms subdivision were endangered. To stabilize portions of Madsen Creek, King County used cranes and helicopters to place boulders and large woody debris, such as stumps and tree trunks, in the stream channels. After these key anchor pieces were in place, smaller streambed rock was added to slow the velocity of the stormwater and reduce future erosion. Erosion will be further decreased after the construction of a stormwater detention pond in Bonneville Power Administration's right-of-way during Phase 2.

Next Steps

Stormwater Detention Pond: King County will soon build a stormwater detention pond in BPA right-of-way to help further reduce erosion in the Madsen Creek ravine. A stormwater conveyance line was built in 2003 to carry flows from the highly eroded west fork of Madsen Creek to the detention pond. The pond will collect stormwater runoff headed for the northwest tributary of Madsen Creek and release it at lower rates than it currently flows to help minimize further erosion of the streambank. A countywide mosquito control program has recently been implemented to minimize any potential impacts related to the pond.

Construction of the Madsen Creek detention pond will be the final phase of erosion control and habitat enhancement projects by King County in Madsen Creek. King County will monitor each project's performance until 2012 and will adjust flow control settings in the detention pond as needed.

Much effort and expense will go into landscaping around the pond and King County asks residents to properly dispose of their yard wastes and refrain from using the pond site as a dumping area.

Keeping You in the Loop

King County has established a construction information line to answer your questions about traffic, noise, and any construction impacts: 206-469-0302.

Questions? Contact Martha Tuttle,
King County Wastewater Treatment Division,
Community Relations, at **206-684-1207 or** *martha.tuttle@metrokc.gov*.

Sewer Construction Techniques Definitions

Open-cut excavation: *Digging a shallow trench and replacing the pipe in place, using a conventional cut-and-cover technique.*

Trenchless Technologies:

1. *Pipe bursting: pulling new, larger-diameter pipe through existing pipe, bursting and replacing it in place.*
2. *Bore and Jack: from inside a pit, jacking (pushing) a pipe or liner while excavating material at the face of the leading edge of the pipe. An operator controls the excavation from behind a shield inside the pipe.*
3. *Microtunneling: remotely controlled, laser guided pipe-jacking process for smaller-diameter pipes.*